Advanced Communications Technology

BRIGHAM YOUNG UNIVERSITY

CENTER

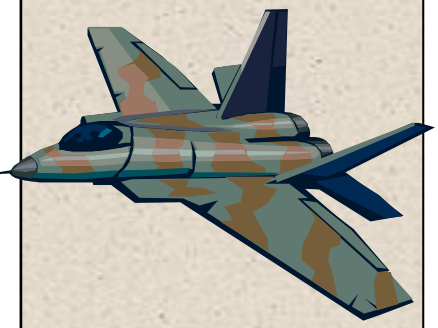
The Center for Advanced Communications Technology was formed to commercialize multi-antenna wireless communications: the main focus is using multiple antennas for robust wireless links to maneuvering air vehicles (tactical aircraft and UAV's). A secondary focus is in applying multi-antenna technology to improvement of commercial wireless communications. The Center has forged strong links with industry and with government as they've developed and refined the technology.

TECHNOLOGY

The Center designs solutions that help compensate for interference in wireless signals, with a particular emphasis on solutions for aircraft performing difficult maneuvers such as rolls as well as new solutions for helicopters communicating with a satellite. Historically these solutions have been focused on multi-antenna systems, but recent breakthroughs allow a single receiver to detect either of the two waveforms currently adopted for telemetry transmission.

ACCOMPLISHMENTS

The Center has filed 3 provisional patents and continues to demonstrate the success of their technology with a successful prototype flight-test held at Edwards Air Force Base. In March, the Center secured nearly $900,000 in funding from the US DOD to develop a real time prototype of the system which is scheduled for completion in the summer of 2006. Ongoing development has allowed the concept to be applied to helicopters communicating with satellites (where moving rotors interrupt communication). In addition, the Center has developed new telemetry technology which allows a single hardware system to be used to accommodate two distinct communication waveforms



THINK TANK

What if there was...

A way for a rolling Air Force jet to always stay in communication with the ground, even when the wings and tail interfere with the signal ?

Michael A. Jensen
BYU
459 Clyde Building
Provo, UT 84602
(801) 422-5736
jensen@ee.byu.edu